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A Numerical Model to Analyze Handoff Delay and Packet Loss in PNEMO Environment (Conference Paper)

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Abstract

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Wireless networks consist of Mobile Nodes (MNs) which use wireless links to communicate. Usually, they work together to attain a common objective such as environmental monitoring, communication, etc. By nature, the communication among these MNs are not stable as the quality of the wireless links is changed severely. Moreover, the wireless nodes are usually small and therefore resource-constrained. Thus, it is not possible to use algorithms having large processing power or memory footprint. All these factors make the design of mobility management schemes for wireless networks quite a challenge. As a result, it is necessary to test schemes systematically to assess the performance in the expected application scenario. To do so, numerical analysis is a notable process to comprehend the performance of mobility management schemes and the limitation of developing mobility management solutions explicitly for multiinterfaced MR in NEMO networks. This paper proposed a numerical model to analyze handoff performance of Multihoming-based scheme to support Mobility management in Proxy NEMO (MM-PNEMO) environment. After that, it represents a comparative analysis among the standard Network Mobility Basic Support Protocol (NEMO BSP), Proxy NEMO (PNEMO) and MM-PNEMO scheme. The performance metrics estimated for these schemes are mainly handoff delay and packet loss. It has been perceived that, the MM-PNEMO scheme performs better compared to the standard NEMO BSP and PNEMO scheme. © 2018 IEEE.

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